

What Is Claimed:

1. An isolated nucleic acid molecule selected from the group consisting of: (a) an isolated nucleic acid molecule comprising SEQ ID NO: 3, 5, 7, 9, 11, 13, 17 or 19; (b) an isolated nucleic acid molecule that encodes the amino acid sequence of SEQ ID NO: 4, 14 or 18; (c) an isolated nucleic acid molecule that encodes a protein that is expressed in stomach cancer and that exhibits at least about 92% nucleotide sequence identity over the entire length of SEQ ID NO: 3 or 17; (d) an isolated nucleic acid molecule that encodes a protein that is expressed in stomach cancer and that exhibits at least about 95% nucleotide sequence identity over the entire length of SEQ ID NO: 13; (e) an isolated nucleic acid molecule comprising the complement of a nucleic acid molecule of (a), (b), (c) or (d).
2. The isolated nucleic acid molecule of claim 1, wherein the nucleic acid molecule comprises nucleotides 174-584 of SEQ ID NO: 3.
3. The isolated nucleic acid molecule of claim 1, wherein the nucleic acid molecule consists of nucleotides 174-584 of SEQ ID NO: 3.
4. The isolated nucleic acid molecule of claim 1, wherein the nucleic acid molecule comprises nucleotides 174-587 of SEQ ID NO: 3.
5. The isolated nucleic acid molecule of claim 1, wherein the nucleic acid molecule is selected from the group consisting of: a nucleic acid molecule consisting of nucleotides 38-892 of SEQ ID NO: 5 and a nucleic acid molecule consisting of nucleotides 38-895 of SEQ ID NO: 5.
6. The isolated nucleic acid molecule of claim 1, wherein the nucleic acid molecule is selected from the group consisting of: a nucleic acid molecule consisting of nucleotides 53-

892 of SEQ ID NO: 7 and a nucleic acid molecule consisting of nucleotides 53-895 of SEQ ID NO: 7.

7. The isolated nucleic acid molecule of claim 1, wherein the nucleic acid molecule is selected from the group consisting of: a nucleic acid molecule consisting of nucleotides 65-892 of SEQ ID NO: 9 and a nucleic acid molecule consisting of nucleotides 65-895 of SEQ ID NO: 9.

8. The isolated nucleic acid molecule of claim 1, wherein the nucleic acid molecule is selected from the group consisting of: a nucleic acid molecule consisting of nucleotides 92-892 of SEQ ID NO: 11 and a nucleic acid molecule consisting of nucleotides 92-895 of SEQ ID NO: 11.

9. The isolated nucleic acid molecule of claim 1, wherein the nucleic acid molecule comprises nucleotides 49-1434 of SEQ ID NO: 13.

10. The isolated nucleic acid molecule of claim 1, wherein the nucleic acid molecule consists of nucleotides 49-1437 of SEQ ID NO: 13.

11. The isolated nucleic acid molecule of claim 1, wherein the nucleic acid molecule comprises nucleotides 49-1437 of SEQ ID NO: 13.

12. The isolated nucleic acid molecule of claim 1, wherein the nucleic acid molecule comprises nucleotides 75-575 of SEQ ID NO: 17.

13. The isolated nucleic acid molecule of claim 1, wherein the nucleic acid molecule consists of nucleotides 75-575 of SEQ ID NO: 17.

14. The isolated nucleic acid molecule of claim 1, wherein the nucleic acid molecule comprises nucleotides 75-572 of SEQ ID NO: 17.

15. The isolated nucleic acid molecule of any one of claims 1-14, wherein said nucleic acid molecule is operably linked to one or more expression control elements.

16. A vector comprising an isolated nucleic acid molecule of any one of claims 1-14.

17. A host cell transformed to contain the nucleic acid molecule of any one of claims 1-14.

18. A host cell comprising a vector of claim 16.

19. A host cell of claim 18, wherein said host cell is selected from the group consisting of prokaryotic host cells and eukaryotic host cells.

20. A method for producing a polypeptide or protein comprising culturing a host cell transformed with the nucleic acid molecule of any one of claims 1-14 under conditions in which the polypeptide or protein encoded by said nucleic acid molecule is expressed.

21. The method of claim 20, wherein said host cell is selected from the group consisting of prokaryotic host cells and eukaryotic host cells.

22. An isolated polypeptide or protein produced by the method of claim 21.

23. An isolated polypeptide or protein selected from the group consisting of: (a) an isolated polypeptide or protein comprising the amino acid sequence of SEQ ID NO: 4, 6, 8, 10, 12, 14 or 18; (b) an isolated polypeptide or protein exhibiting at least about 92% amino

acid sequence identity with SEQ ID NO: 4; (c) an isolated polypeptide or protein consisting of amino acids 31-137 of SEQ ID NO: 4; (d) an isolated polypeptide comprising a fragment of at least 10 amino acids of SEQ ID NO: 6, 8, 10 or 12; (e) an isolated polypeptide comprising conservative amino acid substitutions of SEQ ID NO: 6, 8, 10 or 12; (f) an isolated polypeptide comprising naturally occurring amino acid sequence variants of SEQ ID NO: 6, 8, 10 or 12; (g) an isolated polypeptide exhibiting at least about 75% amino acid sequence identity with SEQ ID NO: 6, 8, 10 or 12; (h) an isolated polypeptide or protein exhibiting at least about 95% amino acid sequence identity with SEQ ID NO: 14; and (i) an isolated polypeptide or protein exhibiting at least about 92% amino acid sequence identity with SEQ ID NO: 18.

24. An isolated antibody or antigen-binding antibody fragment that binds to a polypeptide or protein of claim 23 or to an isolated polypeptide or protein comprising the amino acid sequence of SEQ ID NO: 2.

25. An antibody of claim 24 wherein said antibody is a monoclonal or a polyclonal antibody.

26. A method of identifying an agent which modulates the expression of a nucleic acid encoding a protein of claim 23, a protein comprising the amino acid sequence of SEQ ID NO: 2, 20 or 22, or a Mst1 protein or a Mst1 splice variant protein, the method comprising:
exposing cells which express the nucleic acid to the agent; and
determining whether the agent modulates expression of said nucleic acid, thereby identifying an agent which modulates the expression of a nucleic acid encoding the protein.

27. A method of identifying an agent which modulates the level of or at least one activity of a protein of claim 23, or of a protein comprising the amino acid sequence of SEQ ID NO: 2, 20 or 22, or of a Mst1 protein or a Mst1 splice variant protein, the method

comprising:

exposing cells which express the protein to the agent;

determining whether the agent modulates the level of or at least one activity of said protein, thereby identifying an agent which modulates the level of or at least one activity of
5 the protein.

28. The method of claim 27, wherein the agent modulates one activity of the protein.

29. A method of identifying binding partners for a protein of claim 23 or a protein
10 comprising the amino acid sequence of SEQ ID NO: 2, the method comprising:

exposing said protein to a potential binding partner; and

determining if the potential binding partner binds to said protein, thereby
identifying binding partners for the protein.

15 30. A method of modulating the expression of a nucleic acid encoding a protein of claim 23, a protein comprising the amino acid sequence of SEQ ID NO: 2, 20 or 22, or a Mst1 protein or a Mst1 splice variant protein, the method comprising:

administering an effective amount of an agent which modulates the expression of a
nucleic acid encoding the protein.

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31. A method of modulating at least one activity of a protein of claim 23, or of a protein comprising the amino acid sequence of SEQ ID NO: 2, 20 or 22, or of a Mst1 protein or a Mst1 splice variant protein, the method comprising:

administering an effective amount of an agent which modulates at least one activity
25 of the protein.

32. A non-human transgenic animal modified to contain a nucleic acid molecule of any of claims 1-14.

33. The transgenic animal of claim 32, wherein the nucleic acid molecule contains a mutation that prevents expression of the encoded protein.

34. A method of diagnosing a disease state in a subject, comprising:

5 determining the level of expression of a nucleic acid molecule of any one of claims 1-14 or encoding a Mst1 protein or a Mst1 splice variant protein, or of a protein of claim 23, or of a protein comprising the amino acid sequence of SEQ ID NO: 2, 20 or 22 or of a Mst1 protein or a Mst1 splice variant protein.

10 35. The method of claim 34, wherein the disease state is stomach cancer.

36. The method of claim 34, wherein the disease state is advanced gastric cancer.

37. The method of claim 34, wherein the disease state is a malignant neoplasm.

15 38. The method of claim 37, wherein the malignant neoplasm occurs in soft tissue, bone, breast, cervix, colon, endometrium, esophagus, kidney, larynx, liver, lung, omentum, ovary, pancreas, rectum, thyroid, myometrium, prostate, skin, small intestine, bladder, spleen or stomach.

20 39. The method of any one of claims 16-21 or 24-25, wherein the splice variant is SEQ ID NO: 13 or SEQ ID NO: 14.

40. A composition comprising a diluent and a polypeptide or protein selected from the
25 group consisting of: (a) an isolated polypeptide or protein comprising the amino acid sequence of SEQ ID NO: 4, 6, 8, 10, 12, 14, 18, 20 or 22 (b) an isolated polypeptide or protein exhibiting at least about 92% amino acid sequence identity with SEQ ID NO: 4 or 18, (c) an isolated polypeptide or protein consisting of amino acids 31-137 of SEQ ID NO:

4, (d) an isolated polypeptide comprising a fragment of at least 10 amino acids of SEQ ID NO: 6, 8, 10 or 12, (e) an isolated polypeptide comprising conservative amino acid substitutions of SEQ ID NO: 6, 8, 10 or 12, (f) an isolated polypeptide comprising naturally occurring amino acid sequence variants of SEQ ID NO: 6, 8, 10 or 12, (g) an
5 isolated polypeptide exhibiting at least about 75% amino acid sequence identity with SEQ ID NO: 6, 8, 10 or 12, (h) an isolated polypeptide exhibiting at least about 95% amino acid sequence identity with SEQ ID NO: 14.